Product Information

NAME OF THE MEDICINE

POLYVALENT SNAKE ANTIVENOM (AUSTRALIA - PAPUA NEW GUINEA) AUST R 74899

DESCRIPTION

POLYVALENT SNAKE ANTIVENOM contains antibodies to the venom of the following snakes:

King brown or mulga snake	(*Pseudechis australis*)
Mainland tiger snake	(*Notechis scutatus*)
Eastern brown snake	(*Pseudonaja textilis*)
Common death adder	(*Acanthophis antarcticus*)
Coastal taipan	(*Oxyuranus scutellatus*)

The antivenom is prepared from the plasma of horses immunised with the venom of the snakes. The amount of antivenom has been standardised to neutralise *in vitro* the average yield of venom from each snake. The minimum amount of each antivenom is as follows:

Black snake antivenom	18,000 units
Taipan antivenom	12,000 units
Death adder antivenom	6,000 units
Tiger snake antivenom	3,000 units
Brown snake antivenom	1,000 units
Total	40,000 units

The product also contains phenol, sodium chloride and other equine plasma proteins in an aqueous solution.

PHARMACOLOGY

The venoms of some snakes from Australia and Papua New Guinea contain neurotoxins which can cause respiratory paralysis, and coagulants (except in the death adder) which convert prothrombin to thrombin, which in turn produces a secondary afibrinogenaemia with resultant haemorrhage. The venoms of some snakes also contain a myolytic toxin which can cause renal failure.

Although the amount of antivenom in each dose of POLYVALENT SNAKE ANTIVENOM will neutralise the average yield of venom from each snake *in vitro*, the actual amount needed in clinical practice may be considerably more, particularly if treatment is delayed and the effects of the venom are already evident.

INDICATIONS

For the treatment of patients in Papua New Guinea and in all Australian states except Victoria and Tasmania who exhibit manifestations of systemic snake envenoming and the snake has not been definitely identified. In Tasmania, Tiger Snake Antivenom should be used rather than polyvalent antivenom whilst in Victoria a combination of Tiger Snake Antivenom and Brown Snake Antivenom is the preferred treatment.

POLYVALENT SNAKE ANTIVENOM should not be used when the snake has been identified, as appropriate monovalent antivenom provides similar neutralisation of the venom without introducing the larger amounts of equine protein present in the polyvalent product.

CONTRAINDICATIONS

There are no absolute contraindications, but the product should not be used unless there is clear

evidence of systemic envenoming with the potential for serious toxic effects.

PRECAUTIONS

When medicinal products prepared from animal plasma are administered, infectious diseases due to the transmission of infective agents cannot be totally excluded. This applies to pathogens of hitherto unknown origin. This possibility must always be considered and should be conveyed, whenever possible, to patients who may receive the product. Historically there have been no known recorded cases of transmission of viruses by this product.

In many cases of snake bite, little venom is injected and significant systemic envenoming does not occur. If a significant amount of venom has been introduced, clinical or laboratory evidence of envenoming is usually present within 2 hours but can be delayed, particularly if efficient first aid has been instituted with immobilisation and a firm pressure bandage.

Removal of the bandage and splint will often precipitate the systemic effects of the venom in patients who have been bitten.

Suspected cases of snake bite should be observed for at least 12 hours after being bitten or after removal of the bandage, prior to discharge, and preferably in an intensive care setting. Such patients must be regularly monitored for signs of neuromuscular impairment, coagulopathy, myolysis, renal impairment and other abnormalities.

A diagnosis of systemic envenoming should be based on clinical and, where possible, laboratory evidence.

The venom detection kits can be helpful in detecting and identifying specific venom at the bite site or in urine and can enable the selection of the appropriate monovalent antivenom. Tests of blood are less reliable.

As this product is prepared from animal serum, severe allergic reactions may follow, including anaphylactic shock. Adrenaline must be available during antivenom therapy and prepared ready for use prior to antivenom administration. Anaphylactoid reactions may be more likely to occur in those who are atopic or who have previously received equine serum. This would include patients who have previously received equine Tetanus Antitoxin (prior to 1974 in Australia). In the past, some authorities have advocated premedication with subcutaneous adrenaline and intravenous antihistamine, particularly in those patients who are known to be at risk, but such use is controversial.

The results of skin testing to determine patients who may have an allergic reaction are not satisfactory and should not be undertaken.

Antivenoms may bind complement and produce an anaphalactoid reaction in patients who have had no previous contact with equine protein. The risk of such a reaction can be reduced by adequate dilution of antivenom prior to infusion, although care should be taken to avoid fluid overload (see DOSAGE AND ADMINISTRATION).

Should anaphylaxis occur, suspend administration of antivenom and implement treatment measures immediately, according to an appropriate protocol or guideline. Further administration of antivenom should be considered in the light of the relative problems of envenoming and anaphylaxis.

Severe cases of systemic envenoming should be managed in an intensive care unit.

Delayed serum sickness can occur following the use of animal derived antivenoms. The most common manifestations include fever, cutaneous eruptions, arthralgia, lymphadenopathy and

albuminuria. Less commonly, arthritis, nephritis, neuropathy and vasculitis can occur. The condition can appear days or weeks after the use of antivenom but can occur as soon as 12 hours after a second injection of a similar animal protein. Patients should be advised of the symptoms of serum sickness and warned to seek urgent medical attention if such symptoms develop.

The incidence of serum sickness is greater with larger volumes of antivenom, but can be expected to occur in at least 5% of patients receiving horse serum for the first time.

To minimise the amonuts of equine protein administered, the appropriate monovalent antivenom should be used wherever possible for an identified snake (See INDICATIONS). However, if the appropriate monovalent antivenom is not available or in insufficient quantity, POLYVALENT SNAKE ANTIVENOM may be useful, as it contains components against five venom immunotypes. Seek expert advice in the case of an identified snake, where supply of monovalent antivenom is an issue.

Use in pregnancy
There is limited but inconclusive information on the safety of the product in pregnant women. It is advisable to carefully weigh the risks of untreated envenoming against the expected benefits and potential risks of antivenom administration.

Use in lactation
No information is available on the use of the product during lactation. It is advisable to carefully weigh the risks of untreated envenoming against the expected benefits and potential risks of antivenom administration.

ADVERSE EFFECTS

The following adverse reactions, presented below according to System Organ Class and frequency, have been identified during post-approval use of all CSL snake antivenoms. Adverse event frequencies are defined as follows:

Very common: ≥1/10; common: ≥1/100 and <1/10; uncommon: ≥1/1000 and <1/100; rare: ≥1/10,000 and <1/1000; and very rare: <1/10,000.

Immune system disorders
Common: Allergic reactions including anaphylactic shock and delayed serum sickness

Nervous system disorders
Common: Headache

Gastrointestinal disorders
Uncommon: Abdominal pain, vomiting, nausea and diarrhoea

Skin and subcutaneous tissue disorders
Common: Urticaria, rash

Musculoskeletal and connective tissue disorders
Uncommon: Myalgia

General disorders and administration site conditions
Common: Pyrexia, chills
Uncommon: Local injection site reactions, chest pain

DOSAGE AND ADMINISTRATION

A proportion of people bitten by snakes have symptoms that are so mild that antivenom is not necessary. When there is evidence of systemic envenoming and the snake has not been

identified, the contents of one vial (40,000 units) of POLYVALENT SNAKE ANTIVENOM should be administered slowly by intravenous infusion after dilution with Hartmann's Solution or 0.9% w/v sodium chloride. Once diluted, POLYVALENT SNAKE ANTIVENOM should be used immediately. Do not store diluted antivenom.

The dose is the same for adults and children.

The antivenom should be diluted 1 in 10, although a dilution of 1 in 5 may be more appropriate for patients at risk of fluid overload. Seek expert advice regarding dilution of antivenom to avoid fluid overload, as required. It should not be administered by the intramuscular route.

In the past, some authorities have advocated premedication with 0.25 mL of 1:1,000 adrenaline subcutaneously and intravenous antihistamine to reduce the chance of anaphylactic shock, particularly in those patients who are known to be at risk, but such use is controversial (see PRECAUTIONS).

The patient should receive the antivenom in an intensive care unit if possible and always in a setting where resuscitation facilities are immediately available.

If the patient has received adequate first aid treatment, the splint and pressure bandage should not be removed until antivenom is available for infusion, as removal can precipitate significant effects of systemic envenoming.

The aim of antivenom therapy is to neutralise the venom. Sufficient antivenom must be given to neutralise further venom migrating from the bite site. Deterioration in the patient's condition may indicate that treatment is inadequate and more may be required. Children may become critically ill sooner than adults and may need more antivenom. Patients with severe systemic envenoming may require several vials of antivenom to control the effects, particularly if coagulopathy is present. Amounts as high as 6 vials have been used in the treatment of severe systemic envenoming; it should be remembered that such high doses of this product contain large amounts of horse protein. The patient must be monitored for at least 6 hours after antivenom is administered.

Before starting the infusion of antivenom, adrenaline should be prepared ready to use, as anaphylactic reactions can occur rapidly (see PRECAUTIONS).

Should an anaphylactic reaction occur, suspend administration of antivenom and implement treatment measures immediately according to an appropriate protocol or guideline. As delayed serum sickness is relatively common following the use of large volumes of horse serum, patients who have received antivenom should be advised of the symptoms of serum sickness and warned to seek urgent medical attention if such symptoms develop.

It may occasionally be necessary to treat both envenoming and anaphylaxis simultaneously.

POLYVALENT SNAKE ANTIVENOM contains no antimicrobial preservative. Use once only and discard any residue.

OVERDOSAGE

No information is available on overdosage. Contact the Poisons Information Centre on 131 126 for further advice on overdosage management.

PRESENTATION AND STORAGE CONDITIONS

Presentation: POLYVALENT SNAKE ANTIVENOM is a concentrated injection for intravenous use available as vials containing the following minimum amounts of each antivenom in aqueous solution:

Black snake antivenom	18,000 units
Taipan antivenom	12,000 units
Death adder antivenom	6,000 units
Tiger snake antivenom	3,000 units
Brown snake antivenom	1,000 units
Total	40,000 units

The product volume is potency dependant thus it varies from batch to batch. Please refer to the product volume printed on the carton.

Storage Conditions: POLYVALENT SNAKE ANTIVENOM should be protected from light and stored at 2-8°C. Do not freeze.

NAME AND ADDRESS OF THE SPONSOR

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POISON SCHEDULE OF THE MEDICINE

Prescription Only Medicine (S4)

Date of first inclusion in the Australian Register of Therapeutic Goods: 21 July 2000

Date of most recent amendment: 26 October 2016